UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,571	09/29/2004	Hitoshi Kitayama	230991	9555

23460 7590 01/04/2007

LEYDIG VOIT & MAYER, LTD
TWO PRUDENTIAL PLAZA, SUITE 4900
180 NORTH STETSON AVENUE
CHICAGO, IL 60601-6731

EXAMINER	
FETTEROLF, BRANDON J	
ART UNIT	**PAPER NUMBER**
1642	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,571	KITAYAMA ET AL.	
	Examiner	Art Unit	
	Brandon J. Fetterolf, PhD	1642	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *See Continuation Sheet*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :9/29/2004; 12/10/2004; 06/08/2005.

DETAILED ACTION

Application Status

Claims 1-18 are currently pending and under consideration.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

The Information Disclosure Statement's filed on 06/08/2005 and 09/29/2004 are acknowledged. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the examiner has considered the information disclosure statements. A signed copy of the IDS is attached hereto.

The information disclosure statement filed 12/10/2006 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. In the instant case, document no. AG, i.e., Roberts et al. does not appear to have been submitted. As such, the IDS has been placed in the application file, but the information referred to therein has not been considered.

Claim Objections

Claim 1 is objected to because of the following informalities: Claim 1 recites "A method of determining toxicity to the heart of an anthracycline-type anticancer chemotherapeutic agent, which comprises detecting human H-FABP in the blood separated from human. However, it appears that "a" has been omitted between from and human. Thus, it is suggested that "a" be incorporated between from and human, such that the claim recites "from a human".

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the blood" in 1. However, there is insufficient antecedent basis for this limitation in the claim.

Claims 1-5 are further rejected under 35 U.S.C. 112, second paragraph, as being incomplete for omitting essential steps, such omission amounting to a gap between the steps. See MPEP § 2172.01. The omitted steps are: 1) administration of the anthracycline-type anticancer chemotherapeutic agent to a human; and 2) a correlation step describing how the detection of H-FABP in the blood separated from a human relates back to the preamble of the method objectives, e.g., determining toxicity to the heart of an anthracycline-type anticancer agent. For example, it is unclear whether an increase in H-FABP correlates with toxicity or whether a decrease in H-FABP correlates with toxicity.

Claims 14-18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 14 provides for the use an antibody that recognizes human H-FABP for determining toxicity to the heart of an anthracycline-type anticancer chemotherapeutic agent, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 14-18 are also rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Petzold et al. (European Journal of Cardio-thoracic Surgery 2001; 19: 859-864).

Petzold et al. teach a method of diagnosing myocardial damage in coronary artery bypass grafting, comprising detecting human hFABP in the blood separated from humans (abstract). With regards to the detection, the reference teaches that hFABP was detected using a sandwich enzyme linked immunosorbent assay and a commercially available kit comprising two distinct types of murine antihuman monoclonal antibodies specific for hFABP (page 860, 1st column, 1st full paragraph and page 861, 1st column, paragraph *2.3.1.*). Thus, while Petzold does not specifically teach a method for determining toxicity of an anthracycline-type chemotherapeutic agent, the claimed limitation merely states an intentional purpose for which the only active step of detecting H-FABP is performed. As such, Petzold et al.'s detection of human hFABP in the blood separated from humans anticipates the claims. Moreover, the preamble recitation of a kit for determining toxicity to the heart of an anthracycline-type anticancer chemotherapeutic agent in claim 11 is merely suggestive of an intended use and is not given weight for purposes of comparing the claims with the prior art. When the claim is directed to a product, the preamble **or intended use is generally nonlimiting if the body of the claim is directed to an old composition** and the preamble merely recites a property inherent in the old composition. [*Kropa v. Robie*, 88 USPQ 478, 480 - 81 (CCPA 1951); see also MEP. 2111.02]. Thus, art which reads on a compound may also be applied to kits comprising said compound. The claims read on the active ingredients *per se*, which is an antibody. Further, the intended use of the compound must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. A composition is a composition irrespective of what its intended use is. See In re Tuominen, 213 USPQ 89 (CCPA 1982). Lastly, where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed

matter will not distinguish the claimed product from the prior art. In re Ngai, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004).

Claims 1-18 are rejected under 35 U.S.C. 102(b) as being anticipated by Watanabe et al. (Clinical Biochemistry 2001; 34: 257-263, IDS).

Watanabe et al. teach a method of detecting human heart-type fatty acid-binding protein in whole blood (Abstract). With regards to the detection, the reference teaches that hFABP was detected using an immunographic technique comprising two mouse antihuman H-FABP monoclonal antibodies, one of which was conjugated to a gold colloid and the other was conjugated to nylon membranes (page 258, 1st column, paragraph bridging page 257, 2nd column, paragraph 2.3 and page 259, paragraph 2.5). Thus, while Watanabe et al. does not specifically teach a method for determining toxicity of an anthracycline-type chemotherapeutic agent, the claimed limitation merely states an intentional purpose for which the only active step of detecting H-FABP is performed. As such, Watanabe et al.'s detection of human hFABP in the blood separated from humans anticipates the claims. Moreover, the preamble recitation of a kit for determining toxicity to the heart of an anthracycline-type anticancer chemotherapeutic agent in claim 11 is merely suggestive of an intended use and is not given weight for purposes of comparing the claims with the prior art. When the claim is directed to a product, the preamble **or intended use is generally nonlimiting if the body of the claim is directed to an old composition** and the preamble merely recites a property inherent in the old composition. [*Kropa v. Robie*, 88 USPQ 478, 480 - 81 (CCPA 1951); see also MEP. 2111.02]. Thus, art which reads on a compound may also be applied to kits comprising said compound. The claims read on the active ingredients *per se*, which is an antibody. Further, the intended use of the compound must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. A composition is a composition irrespective of what its intended use is. See In re Tuominen, 213 USPQ 89 (CCPA 1982). Lastly, where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. In re Ngai, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (Clinical Biochemistry 2001; 34: 257-263, IDS) in view of Sayed-Ahmad et al. (Journal of Egyptian Nat. Cancer Inst. 2000; 12: 275-281).

Watanabe et al. teach a method of rapidly detecting human heart-type fatty acid-binding protein in whole blood (Abstract). With regards to the detection, the reference teaches that hFABP was detected using an immunographic technique comprising two mouse antihuman H-FABP monoclonal antibodies, one of which was conjugated to a gold colloid and the other was conjugated to nylon membranes (page 258, 1st column, paragraph bridging page 257, 2nd column, paragraph 2.3 and page 259, paragraph 2.5). In the instant case, the preamble recitation of a kit for determining toxicity to the heart of an anthracycline-type anticancer chemotherapeutic agent in claim 11 is merely suggestive of an intended use and is not given weight for purposes of comparing the claims with the prior art. When the claim is directed to a product, the preamble **or intended use is generally nonlimiting if the body of the claim is directed to an old composition** and the preamble merely recites a property inherent in the old composition. [*Kropa v. Robie*, 88 USPQ 478, 480 - 81 (CCPA 1951); see also MEP. 2111.02]. Thus, art which reads on a compound may also be applied to kits comprising said compound. The claims read on the active ingredients *per se*, which is an antibody. Further, the intended use of the compound must result in a structural difference between the

claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. A composition is a composition irrespective of what its intended use is. See In re Tuominen, 213 USPQ 89 (CCPA 1982). Lastly, where the only difference between a prior art product and a claimed product is printed matter that is not functionally related to the product, the content of the printed matter will not distinguish the claimed product from the prior art. In re Ngai, **>367 F.3d 1336, 1339, 70 USPQ2d 1862, 1864 (Fed. Cir. 2004).

Watanabe et al. does not explicitly teach a method for determining toxicity of an anthracycline-type chemotherapeutic agent.

Sayed-Ahmad et al. teach a method of determining a correlation between H-FABP and doxorubicin cardiotoxicity, comprising measuring the amount of H-FABP mRNA expression compared to single and different cumulative dose levels of DOX (page 277, 2nd column, 2nd paragraph under *RESULTS* and page 278, Table (2)). In particular, the reference teaches that chronic administration of doxorubicin resulted in a significant decrease in H-FABP mRNA expression suggesting that doxorubicin induced cardiotoxicity is due to the inhibition of H-FABP (abstract).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of the references so as to detect H-FABP in a human as taught by Watanabe et al. in order to determine the cardiotoxicity of doxorubicin in view of Sayed-Ahmad et al. One would have been motivated to do so because Sayed-Ahmad et al. teach that while doxorubicin has a broad spectrum of antitumor activity against a variety of tumors, its use is limited due to its specific dose dependent toxicity (page 275, Introduction); and further, that doxorubicin cardiotoxicity correlates with a significant decrease in H-FABP mRNA expression. Thus, one of ordinary skill in the art would have a reasonable expectation of success that by detecting H-FABP in humans exposed to doxorubicin, one would achieve a simple and rapid method of determining doxorubicin cardiotoxicity.

Therefore, No claim is allowed.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brandon J. Fetterolf, PhD whose telephone number is (571)-272-2919. The examiner can normally be reached on Monday through Friday from 7:30 to 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shanon Foley can be reached on 571-272-0898. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Brandon J Fetterolf, PhD
Patent Examiner
Art Unit 1642

BF